



Mayor Michael B. Coleman

City of Columbus Green Fleet Action Plan

2011-2014

2012 Year-end Update

Department of Finance and Management
Division of Fleet Management

City of Columbus
Green Fleet Action Plan
2011-2014
2012 Year-end update

Mayor Michael B. Coleman

Section 1: Introduction

Mayor Coleman continues to be a front-runner in the Midwest in “greening” our environment. The past several years have yielded significant accomplishments toward this end goal, including:

- City of Columbus awarded the #1 Greenest Fleet in North America by Government Fleet in 2011
- Columbus Fleet Management was awarded the “Clean Fuels Champion” statewide award by Clean Fuels Ohio in 2011
- Three Columbus divisions (Planning and Operations, Refuse and Sewers and Drains) were certified as Ohio Green Fleets
- City of Columbus awarded the 7th “greenest” fleet in the country by Government Fleet in 2010
- Environmental Stewardship Award (2009) presented to Mayor Coleman by Government Fleet Magazine, Bobbitt Publishing for public sector fleets in the USA
- “Environmental Leadership” award received from the Ohio Environmental Council for our 2009 green fleet initiatives
- City of Columbus awarded the 22nd “greenest” fleet in the country by Government Fleet in 2009

In 2008, Mayor Coleman issued the City’s first Green Fleet Action Plan (available at www.getgreencolumbus.com). This plan addresses the management, operation and procurement of Columbus fleet vehicles in order to improve vehicle energy efficiency and reduce emissions. This was a plan for greening our city’s fleet and addressed the most pressing issues of the time, with most targets and goals going through 2010. The majority of targets of the original plan were met, including:

- Reduction of overall fuel consumption by almost 2% since the plan was implemented
- Significantly increasing our use of bio-fuels
- Implementation of our first CNG refuse truck demonstrating reduced carbon emission and fuel savings

- Retrofitting all eligible diesel vehicles with emission reduction equipment and anti-idling equipment
- Increasing our purchases of “green” vehicles

This updated plan is intended to lead us through the next phase of greening the City’s fleet and strengthening our efforts to reduce our carbon footprint. It is based on the City’s 2008 original plan and Mayor Coleman’s 2005 Green Memo. The goals of this plan remain the same – to reduce fleet petroleum use and reduce vehicle emissions, while realizing cost efficiencies when possible.

Section 2: City of Columbus Facts

- The City of Columbus Fleet Management Division maintains almost 6200 pieces of equipment
 - Approximately 3050 are on-road vehicles, i.e., cars, trucks, SUVs, etc.
 - Approximately 3125 are off-road, e.g. construction equipment
- 3,414,725 gallons of fuel consumed in 2012:
 - 896,710 gallons biodiesel (74.5% of all bulk diesel purchased was biodiesel)
 - E-85 – 3327 gallons (<1% of total unleaded)
 - CNG – 57,925 gge (over \$101,400 in fuel savings over average 2012 cost of diesel)

Section 3: Metrics

Immediate/On-going Initiatives:

- **Measure:** Total annual City fuel use (includes **all** fuel used- bio, ethanol, petroleum, CNG, etc.)
 - **Target: Reduce overall City fuel use by 2% compared to 2010 usage by 2014 – exceeded**

Accomplish through: Working with city agencies to right-size and downsize the fleet, refine and enhance “green” procurement policies, greater promotion of the anti-idling policy, GPS and AVL telematic technologies, and long-range planning and use of vehicle replacement plan

2012 Year-end update: Overall City fuel use for 2012 is down by **1.5% (52,601 gallons)** compared to year-end 2011, with 3,414,725 gallons consumed in 2012 vs. 3,467,326 gallons in 2011. Compared to 2010, overall city fuel use has been reduced by 3.2%, already exceeding our 2014 goal of a 2% reduction.
- **Measure:** Total annual City petroleum use (includes **only** petroleum fuel- does not include “green” fuels - bio fuels, ethanol, CNG, etc.)
 - **Target: Reduce annual petroleum use by 5% compared to 2010 levels by the end of 2014 – on track**

Accomplish through: Increased use of alternative-fueled vehicles- hybrids, CNG and flex fuel, and greater use of biodiesel

2012 Year-end update: As of 2012 year-end, City petroleum use is down by **1.07%, (or 35,255 gallons)** compared to year-end 2011 (3,274,038 gallons of petroleum consumed in 2012 vs. 3,309,293 in 2011). Compared to 2010, petroleum use has been **reduced** by 181,334 gallons, or **5.25%**, already exceeding our 2014 goal of a 5% reduction.

- **Measure:** Percentage of City bulk diesel purchases that are a biodiesel blend (at least B2 and up to B20 depending on season)
 - **Target: 100% by end of 2013**
 - **75% by end of 2011 – 72%, slightly below target**
 - **85% by end of 2012 – 74.5%, below target**

Accomplish through: Cleaning of diesel tanks so that all tanks can be switched to biodiesel

2012 Year-end update: In 2012, **74.5%** of City bulk diesel purchases were biodiesel, with B20 purchased March – May and B5 purchased for the remainder of the year. Typically, B20 would be used throughout the warmer months into October, but the cost of biodiesel in 2012 has prohibited the City from purchasing the higher, and more expensive, blend. Biodiesel is a commodity and therefore driven by market conditions, which have caused the price to increase from an average of \$2.86/gallon in 2010 to a current average of \$3.32/gallon. There are currently 14 fuel sites that are 100% biodiesel. All Refuse, Planning and Operations and Fleet Management Division fuel sites are now 100% biodiesel. Fleet Management will begin an aggressive plan to clean the 38 remaining fuel sites starting in March 2013. All sites are expected to be cleaned by end of second quarter 2013. Once cleaned, they can start receiving biodiesel shipments, which will greatly increase the percentage of bulk diesel purchases that are a biodiesel blend.

- **Measure:** Light duty vehicle purchases that are considered green
 - **Target: 50% by end of 2011- exceeded- 55% in 2011**
Accomplish through: Continue to enforce “environmentally preferable purchasing” policy, continue to review all vehicle specifications in conjunction with the end user agency and the Purchasing Office to ensure the most “green” vehicles possible are being specified, continue to meet with City divisions to review purchase requests in order to right-size vehicles for their intended purpose

2012 Year-end update: The City purchased 243 light duty vehicles in 2012. Of these, 103 or **42%**, are considered green. The majority of green light duty vehicle purchases have been flex fuel.

- **Measure:** Heavy-duty truck purchases that are considered green
 - **Target:** Purchase at least 22 heavy duty CNG trucks and 5 heavy duty hybrid trucks through federal grant programs - **met**
 - Accomplish through:** Implementation of CMAQ and Clean Cities grant for 2010 funded vehicle purchases to be received in first half of 2011

2012 Year-end update: Through the use of CMAQ and Clean Cities grant funds, Columbus has purchased **22** heavy duty CNG vehicles and **five (5)** heavy duty hybrid trucks. All vehicles have arrived and been put into service except for two CNG dump trucks, which are on order and expected to arrive by mid-2013.

- **Measure:** Create CNG fueling infrastructure
 - **Target:** Construct and open the first City-owned CNG fueling station at Groves Road by November 1, 2011 – **open for business**
 - Accomplish through:** Implementation of Clean Cities grant for construction and operation of a CNG fueling station

2012 Year-end update: The City's first CNG station is open and operating. A formal station dedication ceremony was held on April 17, 2012. Other public fleets are able to utilize the station and the station is also now open and accessible to the public (via Visa/Mastercard). The station has pumped over 51,100 gge's (gasoline gallon equivalents) during 2012. Of this total, 47,054 gges were for city-owned vehicles and 4,123 gges were for non-city (private) vehicles. CNG fuel savings for city vehicles total over \$101,400 compared to the average price of diesel for 2012. We expect these savings to increase with the recent passage of the American Taxpayer Relief Act, which includes a \$.50/gallon tax credit for alternative fuel as well as a \$30,000 tax credit for alternative fueling infrastructure. Columbus will be applying for both of these credits, which would come to the city in the form of rebates.

Long-term Initiatives:

- Expand CNG fueling infrastructure
 - **Target:** Identify the location of the next CNG City-owned fueling station(s) and secure funding by end of 2011; begin design by end of 2nd quarter 2012
 - 2012 Year-end update:** Property for the second CNG station has been purchased on Morse Road near Cleveland Avenue. The station is currently in the design phase with construction expected to begin by 3rd quarter 2013. The station is expected to be complete and pumping fuel by first quarter 2014. Discussions have occurred between the City of Columbus and COTA regarding a possible partnership on a downtown CNG fueling station and also with ODOT regarding a possible partnership on a fueling station on the west side of Columbus.
- Expand numbers of CNG heavy duty vehicle fleet

- **Target:** As fueling infrastructure grows, create strategy for increasing the number of heavy duty CNG vehicles to keep pace with infrastructure growth
 - **2012 Year-end update:** Fleet Management has been working with divisions to develop projections for CNG vehicle purchases through 2014 that will keep pace with fueling infrastructure. The divisions of Refuse, Planning and Operations, Sewers and Drains and Water all have significant CNG purchases scheduled for the coming years. By the end of 2013, Fleet projects that Columbus will have up to 64 CNG vehicles on order or in operation, which are projected to displace over 229,000 gallons of diesel and save over \$444,000 in fuel costs. By the end of 2014, Fleet projects having up to 114 CNG vehicles either on order or in operation, which will displace over 417,000 gallons of diesel fuel and save over \$809,000 in fuel costs. All planned units are heavy duty and therefore large consumers of fuel.
- Reduction of Greenhouse Gas Emissions from City vehicles
 - **Target:** Establish baseline and reliable measurement tool to calculate GHG emissions from City-owned vehicles; establish target for GHG reduction by end of 2011
 - **2012 Year-end update:** The new GPS units being installed on city vehicles have the ability to calculate greenhouse gas emissions from vehicles and will allow the city to calculate its carbon footprint from vehicle emissions. All on-road city vehicles (approximately 3200) will receive GPS units. Installation of the units began in September, with 538 units installed by year-end. The remaining units will be installed by the end of third quarter 2013.
- Electric vehicle use
 - **Target:** Explore electric vehicle options and infrastructure available and viable to the City of Columbus operations; explore cost and funding opportunities
 - **2012 Year-end update:** The City of Columbus developed an electric vehicle readiness plan with help from the *Project Get Ready* community network. The plan outlines the ideal locations for vehicle charging stations. A Department of Energy grant obtained through project partner Clean Fuels Ohio allowed the city to install two of these stations for use by the public that are currently operational. Columbus is purchasing six electric vehicles from 2012 funding - 3 GEMs, 1 Ford C-Max (109 MPG) and two all-electric Ford Focuses. All units shall replace gasoline driven vehicles which will be eliminated from our fleet upon delivery of these new units in early 2013.
- Green Off Road Vehicles
 - **Target:** Explore available “green” off road options such as propane mowers and electric golf carts at city-owned golf courses, etc.

- 2012 Year-end update: Fleet Management has begun exploring off road green options and worked in cooperation with Recreation and Parks and Planning and Operations this spring to bid propane mowers. As a result, the City purchased 14 propane powered mowers (12 Rec and Parks, 2 Planning and Ops) to be put in service during mowing season in 2013. Through a purchase incentive program offered by the Petroleum Education and Research Council (PERC), the City will receive a \$1000 incentive for each mower purchased (total \$14,000) in exchange for providing one season worth of data to PERC for research purposes.
- Help create a green infrastructure
 - **Target:** Cooperate with other Central Ohio private and public fleets in alternative fuel procurement, in refueling station placement and in demonstrating new technologies
 - **2012 Year-end update:** Fleet Management is a member of the Mayor's Green Team, as well as the Green Transportation Committee, thereby affording us the opportunity to confer with other Central Ohio private and public fleets. Columbus has had conversations with COTA , Columbus Public Schools, ODOT and several other local municipalities about collaborations regarding CNG including fuel procurement and future station location. Fleet Management provides meeting space for monthly Central Ohio NGV Partnership meetings held by Clean Fuels Ohio as well as space for any additional trainings or workshops designed to take place in central Ohio.

Section 4: Next Steps

Achievement of these goals and targets will require the cooperation and participation of all City department and divisions. The Fleet Management Division, with support from the Mayor's Environmental Steward's Office, will take the lead in implementing these initiatives and will track the progress of the targets. However, each city division should be responsible for calculating and tracking its own carbon footprint. Updates will be provided at mid-year and year-end that outline the activity that has taken place. The Mayor's Green Team will be kept informed about the progress of the plan and will have the opportunity to provide input and assist in monitoring progress. We expect this document to be fluid- new technology, new grant opportunities, funding challenges, etc. are constantly happening. Every effort will be made to take advantage of the best options available to green our fleet, while minimally impacting City operations.